

REMARKS

Reconsideration of this application is requested. Claims 1, 3-5, 18-22 and 24 are pending and at issue.

Claims 1, 3-5, 18-22, and 24 have been rejected under 35 U.S.C. §103(a) as obvious over Katagiri or Taylor in view of Wieczorek.

Applicants respectfully traverse this rejection and respectfully request reconsideration.

In the processes described in Katagiri and Taylor, a Vince lactam (2-azabicyclo[2.2.1]hept-5-en-3-one) is first substituted with an electron withdrawing group and then reacted with sodium borohydride. In both Katagiri and Taylor, the substituted Vince lactam is isolated before being reacted with sodium borohydride.

In Katagiri, the substituted Vince lactam (compound 10c) which was used to form compound 11c and the aminoalcohol (compound 42) (see charts 6 and 12 on pages 1114 and 1116, respectively), was isolated by silica gel column chromatography before being reacted with sodium borohydride. See page 1118, sixth, seventh, and eighth full paragraphs in the left column entitled "2-Carbamoyl-2-azabicyclo[2.2.1]hept-5-en-3-one (10c)", "cis-4-Hydroxymethyl-1-(N'-methylureido)cyclopent-2-ene (11d)", and "cis-4-p-Toluenesulfonylaminocyclopent-2-enylmethanol (11a) and cis-4-Hydroxymethyl-1-ureidocyclopent-2-ene (11c)", respectively. Furthermore, the substituted Vince lactam (compound 10c) used to form the aminoalcohol was derived from another substituted Vince lactam (compound 10b), which was isolated by recrystallization. See the fifth full paragraph on page 1118.

In Taylor, the substituted Vince lactam ((-)-N-tert-butyloxycarbonyl-2-azabicyclo[2.2.1]hept-5-en-3-one) was isolated and purified by recrystallization before being reacted with sodium borohydride (see page 1127, first full paragraph). The subsequent reaction of the substituted Vince lactam with sodium borohydride is described in the second full paragraph on page 1127.

Therefore, both Katagiri and Taylor form an isolated substituted Vince lactam which is then reduced with sodium borohydride. Neither Katagiri nor Taylor disclose or suggest reducing an unsubstituted Vince lactam with lithium borohydride to yield an aminoalcohol as recited in the pending claims.

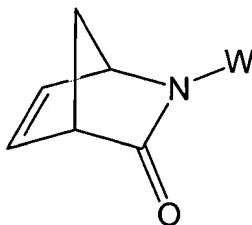
In fact, both Katagiri and Taylor teach away from reducing the unsubstituted Vince lactam with a metallic borohydride. In this regard, Taylor states:

“The [Vince] lactam is first converted to an ester-amide derivative, ... which is reduced with an activated borohydride ... to reach the key aminoalcohol (5). This route is used since the lactam is inert to direct reduction by sodium borohydride.” (Taylor at page 1122, lines 3-6).

Likewise, Katagiri states that “the N-unsubstituted [Vince lactam] is stable to sodium borohydride reduction”. See page 1114, right column, lines 1-4.

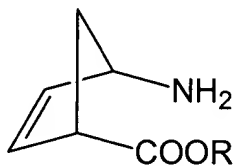
In the October 10, 2002 Office Action, the Examiner asserts that the presently claimed process includes the same intermediate step (i.e., substituting the Vince lactam with an electron withdrawing group) as that disclosed in Katagiri and Taylor.

In the processes described by Katagiri and Taylor, an electron withdrawing group W is first attached to the nitrogen atom of the Vince lactam to form an intermediate compound of the formula¹:



See the N-substituted Vince lactam in Exhibit A to the December 27, 2001 Response; Chart 6 on page 1114 of Katagiri; and page 1123 of Taylor.

In contrast, the process of the presently claimed invention involves reducing the Vince lactam with a metal hydride. As discussed at page 5, lines 31-39, of the instant specification, an amino acid ester intermediate may be formed if the reaction is carried out in the presence of an alcohol. Such an amino acid ester would have the formula:



Neither Katagiri nor Taylor disclose or suggest forming an amino acid ester intermediate in a process for preparing an aminoalcohol from a Vince lactam. The intermediate formed in Katagiri and Taylor discussed above does not contain an amino group (-NH₂). Therefore, the amino acid ester intermediate referred to in the instant specification is different than that shown in Katagiri and Taylor.

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¹ In the case of Taylor, W is -CO₂tBu.

While the presently claimed process may include additional steps, it requires reducing an unsubstituted Vince lactam with lithium borohydride. As discussed above, Katagiri and Taylor only teach reducing a substituted Vince lactam with sodium borohydride and teach away from reducing the unsubstituted Vince lactam with a metallic borohydride.

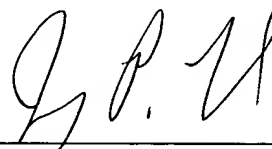
Wieczorek does not disclose or suggest reducing an unsubstituted Vince lactam with a metallic borohydride.

Therefore, Katagiri, Taylor, and Wieczorek alone or in combination fail to render obvious the presently claimed invention and this rejection should be withdrawn.

In view of the above remarks, it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue.

If there are any other issues remaining which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

Respectfully submitted



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The same end and starting compounds are in the refs.